EXCAVATION WORK PLAN

USA Consolidators, Inc.
9951 Greenleaf Avenue
Santa Fe Springs, CA 90670

Prepared for
U.S. EPA REGION 9
75 Hawthorne Street
San Francisco, CA 94105

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1.0 PROJECT DESCRIPTION

1.1 INTRODUCTION

USA Consolidators, Inc. (USAC) owns the real property located at 9951 Greenleaf Avenue, Santa Fe Springs, CA 90670 (Proposed Project Site) (see **Figure 1**). The property is curently vacant except for a mobile trailer used as a field office and the foundations of buildings associated with historical use of the property. The property is currently listed with the Los Angeles County Recorder as a single parcel, 8167-02-49. USAC has petitioned for and received City of Santa Fe Springs Planning Commission (Commission) approval (June 11, 2012) to split its property into two lots (Parcels A and B, **Figure 2**). The Commission has approved (June 11, 2012) a plan to build a one-story warehouse with offices on Parcel A. USAC plans on building a similarly-sized warehouse on Parcel B. In anticipation of the development of Parcel B, USAC proposes to excavate a portion of the southern portion of the parcel to remove and dispose of oilfield wastes buried there. The removal of a very small portion of a RCRA D-equivalent clay cap, excavation and disposal of oilfield wastes, and an engineered fill constitute the “Proposed Project”. The Proposed Project is not expected to result in significant adverse impacts to the environment. On the contrary, the Proposed Project will reduce the size of the WDI Superfund Site and return 2.13 acres to productive USACge.

1.2 LEAD AGENCY AUTHORITY

The lead agency is the public agency that has the principal responsibility for carrying out or approving a project that may have a significant adverse effect upon the environment. The United States Environmental Protection Agency (USEPA) Region 9 is acting in the capacity of "lead agency" for this project. The USEPA has the principal responsibility of approving this work plan and addressing the potential adverse environmental impacts associated with the Proposed Project.

The Waste Disposal Group, Inc. (WDIG) is a group of potentially responsible parties for the Waste Disposal Group, Inc. Superfund site (WDI). This work plan will be submitted to the WDIG for review and comments however the work plan approval responsibility rests ultimately with the USEPA Region 9.

1.3 PROJECT LOCATION

The Property is located at the south corner of the intersection of Greenleaf Avenue and Los Nietos Road (see **Figure 1**). The City is located approximately 13 miles southeast of downtown Los Angeles with neighboring cities of Whittier, Cerritos, Norwalk, Downey, and Pico Rivera. The Proposed Project site, approximately 2.13 acres and is zoned Commercial M-2, Heavy Manufacturing by the City. The Proposed Project site is located at the southern corner of the federally designated WDI Superfund Site (Latitude: 37° 57.0' North, Longitude: 118° 03.0’ West; Township 2 South, Range 11 West, Section 32 in reference to the San Bernardino Base Meridian).

1.4 SURROUNDING LAND USE

The Proposed Project site is within the federally-designated Superfund site. The property is bordered on the northwest by light industrial businesses (e.g. Rick's Smog Service, E.D.M. Methods) and vacant land, on the northeast by Atlas Heat, on the southwest by Los Nietos Road, and on the southeast by Greenleaf Avenue Residences are located northeast across from the Proposed Project property on Greenleaf Avenue. The properties across Los Nietos Road are occupied by industrial complexes. Sensitive land uses near the Proposed Project site include single-family residences and a high school the lie approximately 150 yards to the northeast of the site. **Figure 2** is a parcel map showing the relationships between the Project property and businesses immediately surrounding it.

1.5 WDI SITE HISTORY AND USE

The project site occupies the southernmost corner of the Waste Disposal Group, Inc. (WDI) Superfund site (the "WDI Site"). The WDI Site is on approximately 38-acres of land. It is bordered on the northwest by Santa Fe Springs Road, on the northeast by the former Fedco Distribution Center and a private high school, on the southwest by Los Nietos Road, and on the southeast by Greenleaf Avenue.

The WDI Site was conceptually divided into eight areas (Areas 1 through 8) based on previous uses and conditions during the Initial RI/FS period as shown in **Figure 2** (TRC 2006). The eight areas are comprised of 22 parcels. Various businesses are currently operating on 19 of the parcels; 3 of the parcels are currently vacant (including the Proposed Project site).

A 42 million-gallon-capacity reservoir is buried in the central portion of Area 2 (**Figure 2**). The northern portion of Area 2 was covered with an asphalt parking lot and was used for recreational vehicle (RV) storage prior to the start of construction of the RCRA D-equivalent clay Cover. The remaining portion of Area 2 is undeveloped. Area 1 (located along Santa Fe Springs Road) and Area 8 (located along Los Nietos Road) contain most of the light industrial complexes and small commercial businesses that are present on the WDI Site. Areas 3 through 7 extend along Greenleaf Avenue. Areas 3 and 4 are undeveloped and are the closest property boundary to nearby residential areas (approximately 50 feet). The building located in Area 5 is used for a commercial business. Areas 6 and 7 are unoccupied, but contain several concrete foundations that remain from previous structures. Area 7 corresponds to Parcel B (which is the Proposed Project site, **Figure 2**).

The reservoir was used for crude oil storage from the Santa Fe Springs oil field from 1924 to some undetermined time, probably in the 1930s. During this period, various activities were being performed outside the reservoir, including the storage and mixing of drilling mud. It is inconclusive from aerial photograph review whether waste disposal activities were being systematically carried out during this period.

Beginning in the late 1940s to early 1950s, the WDI Site was used for disposal of a range of waste and solid fill materials. After 1949, waste disposal activities were regulated under permit

from Los Angeles County, Department of Sanitation until facility closure in 1964. Reliable documentation on disposal was not maintained. As a result, a comprehensive history of WDI Site disposal practices or accepted waste is not available. However, permitted waste included the following: rotary drilling mud; clean earth, rock, sand and gravel; paving fragments; concrete, brick; plaster; steel mill slag; dry mud cake from oil field sumps and acetylene sludge. Investigations have shown that disposed material also included organic wastes, oil refinery waste, solvents, and waste chemicals. Wastes were disposed primarily within the reservoir boundary and in bermed areas surrounding the reservoir. However, field investigations and aerial photograph analyses indicates occurrence of wastes throughout most of the WDI Site.

In 1953, the WDI Site began receiving fill material to cover the WDI Site including the reservoir area and unlined bermed disposal pits. The filling of the reservoir area continued until approximately 1966 when grading of the WDI Site was completed.

The WDI Site was placed on the NPL in July of 1987. In 1988, the EPA undertook a removal action. During the years 1988 to 1993, EPA undertook an RI/FS (EPA, 1993a) which led to a selected remedy for the WDI Site presented in the Record of Decision (ROD) (EPA, 1993b).

The Settling Defendants for the Site (a Group of Potentially Responsible Parties who carry out the requirements of the ROD under the WDI Site orders and decrees) organized the WDIG. The WDIG conducted a series of pre-design field investigations and treatability studies during 1995 through 2001 under Administrative Order (AO) 94-17 and Amended Administrative Order (AAO) 97-09. The results of these activities were reported in the Remedial Design Investigative Activities Summary Report (Revision 2.0) (TRC, 2001a). After incorporating comments from the EPA and DTSC, the report was approved in June 2001.

The pre-design field investigations changed the conceptual model for the Site and identified additional conditions to those considered for selection of the remedy incorporated in the ROD. Therefore, a Supplemental Feasibility Study (Revision 4.0) (SFS) (TRC, 2001b) was prepared in 2001. Based on the results of the SFS, the EPA selected a revised remedy, which was incorporated in the Amended Record of Decision (AROD, EPA, 2002). A Remedial Design was prepared to construct the remedy presented in the AROD, and the Remedial Design Report (TRC, 2003a) was approved by EPA in June 2003.

During the development of the AROD, the EPA and WDIG negotiated a Consent Decree for implementation of the remedial design. The Consent Decree was entered by the United States District Court, Control District of California in 2003 (EPA, 2003). The RA Completion Report is one of the deliverables required under the Consent Decree and is included in the CCR as Section 4.0.

The implementation of the remedial design at the Site was initiated in March 2004 and the remedial design construction work was performed according to the Remedial Design Report (TRC, 2003b), Remedial Action Work Plan (RAWP, TRC, 2004a) and associated management plans. The remedial construction work has been completed and all construction activities performed onsite are documented in the Construction As-Built Report.

The WDI Site has been the subject of various investigative activities from the early 1970s through 2002. These activities have included the investigation of the physical and chemical characteristics of the soil, groundwater, soil vapor, and liquids located within and outside the reservoir boundary, and in-business air onsite.

The WDI Site conditions are summarized in the following sections. A complete description of the objectives and findings of the Site investigations are provided in Hunter (1988), Ebasco (1989), and TRC (2000, 2001a, 2001c, 2002, 2003a, 2003b, 2005a).

1.51 Summary of Environmental Investigations at the Proposed Project Site

The Water Replenishment District of Southern California (WRD), in cooperation with the United States Geological Survey (USGS), completed a groundwater study to assess the threat to groundwater in the Central Basin (including Whittier and Santa Fe Springs) by multiple regional plumes (WRD, 2007). The plume closest to the Proposed Project is the Omega Plume (**Figure 3**), which stretches a distance of 4.5 miles from the Omega Chemical Corporation facility in Whittier south/southwest towards Santa Fe Springs. The Omega Plume is being overseen by the USEPA Region 9. Michael Skinner, WDIG Project Coordinator, in a letter from Michael J. Skinner Consulting, LLC (MJSC) to Cuong Nguyen, Associate Planner, Department of Planning and Development, City of Santa Fe Springs, dated July 25, 2011 states (directly excerpted) that:

> The investigative work completed by the EPA and the WDIG confirmed that there are no groundwater impacts under the WDIG Superfund Site and therefore the groundwater under the redevelopment property is not impacted.

In May 1986, Dames and Moore (1986a) installed four vapor probes on Parcel B to a depth of 5 feet. Total organic vapor concentrations within the soil gas were measured by extracting gas from the soil through the probe with a vacuum pump and analyzing it with an OVA and an NGI. Dames and Moore also drilled 6 soil borings on the Property. Three of these borings were drilled in areas where drilling mud was previously encountered in the shallow subsurface. Two borings were drilled adjacent to the WDI site soil cap in order to evaluate whether hazardous chemical compounds have migrated across the property boundary. Samples were collected at approximately 2.5-foot Intervals and borings were completed to depths ranging from 16.5- to 21.5 feet. Five soil samples were retained for analysis of Title 22, California Code of Regulations (CCR) metals, USEPA priority pollutant organics (Methods 8240 and 8270), and pH. Samples yielding high OVA readings were analyzed.

The results of Dames and Moore's laboratory analyses (1986a) show that moderate levels of naphthalene, di-n-butyl phthalate, and 2-methylnaphthalene were found at a depth of 6.0 feet. A second boring contained moderate- to high concentrations of naphthalene. Fluorine, phenanthrene, and 2-methylnaphthalene were detected at a depth of 8.5 and 11 feet bgs. Ethylbenzene was found at 8.5 feet but not at 11 feet. Di-n-butyl phthalate, isophorene, and chrysene were found at 11 feet but not at 8.5 feet. Boring DM-3 contained relatively high concentrations of naphthalene, fluorine, phenanthrene, and 2-methylnaphthalene at a depth of 16 feet. Detectable concentrations of di-n-butyl phthalate were found at a depth of 3.5 feet in Boring DM-4. The pH of soil samples was found to be between 7.9 and 8.4. All metal

concentrations were reported to be below the total threshold limit concentration (TTLC) and all but three metal concentrations were reported below the soluble threshold limit concentration (STLC), but the exact value of these concentrations was not been reported.

On June 25, 1986, Dames and Moore (1986b) installed three shallow (5- to 6 feet deep) soil vapor probes and performed 21 CPT (cone penetrometer test) soundings at Parcel B . The purpose of this work was to: (1) better estimate the extent of sumps and associated soft material at the site, and (2) utilize shallow vapor probes to assess the nature and concentration of organic vapors in the soils beneath the site. Each of the CPT soundings was plotted and interpreted. A sump was identified (**Figure 4**). Shallow soil vapor probes were monitored with an organic vapor analyzer (OVA) and a natural gas indicator (NGI). A gas sample was collected from each of the vapor probes for chemical analysis.

Analysis of gas samples by Dames and Moore (1986b) shows 9,500 ppm of methane at a depth of 6 feet in one sample, no detectable concentration of gas in a second sample, and 11,200 ppm of methane, and 29 ppm of total non-methane hydrocarbon as hexane at a depth of 6 feet in a third sample. Dames and Moore (1986b) believe the vapors these samples may be the result of lateral migration through the subsurface from the WDI site.

Interpretation of Dames and Moore's CPT soundings shows the presence of very soft sump materials, possibly including desiccated mud and loose fill, beneath Parcel B of the USAC Project Site (**Figure 4**). Two approximations for the horizontal extent of the very soft material were made by Dames and Moore (1986b). The inner zone, containing very soft material, has approximate dimensions of 100 feet by 175 feet with an average thickness of 10 feet. Very soft material was encountered as deep as 18 feet.

Clean Soil, Inc. (CSI, 2008) drilled borings at nine locations in USAC Property's Parcel A (**Figure 2**) to depths of 20 feet bgs. Soil samples were collected from every 5 feet of depth and analyzed for VOCs and metals. Soil vapor samples were collected at three locations and tested for methane. The concentrations of metals in all soil samples analyzed were within the limits for background concentrations of these compounds in Southern California, with the possible exception of one sample with lead (3,870 mg/kg or parts per million) and one sample with barium (1,860 mg/kg). No impacted soil of any consequence was encountered in this limited investigation. Brick fragments and wood chips were encountered in one boring closest to the USEPA-approved RCRA D-equivalent clay cap. Three borings were found to have slightly odorous, oily soils in them.

The results of environmental samples that have penetrated the RCRA D-equivalent clay cap, overburden, and soil suggest that the oilfield waste and construction debris encountered beneath and adjacent to Parcel B are impacted but not hazardous. There are VOCs that have been detected that are related to oilfield activities, e.g. naphthalene. There has been methane generated by the buried waste materials.

1.6 PROPOSED PROJECT DESCRIPTION

The Proposed Project is to remove oilfield waste materials beneath Parcel B that occupy a semicircular sump identified by Dames and Moore (1986a) using borings and cone penetrometer test (CPT) scans (**Figure 4**). To gain access to the sump materials, the RCRA Subtitle D-equivalent clay cover (overburden) overlying the sump will be removed. The overburden will be stockpiled onsite in discrete, juxtaposed piles of 100 cubic yards and spayed with water for dust control. Visqueen™ or other plastic material will cover the piles of overburden to keep dust particulates from being released into the atmosphere. Each pile shall be sampled, analyzed, and compared to the clean fill criteria contained in **Table 1** prior to reuse as engineered fill. An estimated 2,000 cubic yards of material will be excavated.

Overburden that contains construction debris will be stockpiled and tested and may be sifted through a 3-inch minus mesh if the volume is greater than 15 cubic yards. If a small volume of construction debris (<15 yards) is present, it will be transported offsite to the appropriate EPA-approved facility (consistent with the "Offsite Rule"). This material will be profiled (sampled and analyzed) before shipment to an EPA-approved facility. If the fine fraction after sifting is tested and judged to meet the clean fill criteria it may be used as engineered fill. Clean soil will be imported and an engineered fill will be constructed. No work will commence without the review and approval of the plans for the Site by the EPA and the WDIG.

1.61 Excavation of Oilfield Waste

Oilfield waste material (waste) will be excavated, wetted, stockpiled in 100-yard windrows, and covered on site. The excavated material will be profiled prior to disposal at an EPA-approved facility. The bottom and sidewalls of the excavation will be observed for visual, olfactory, and photoionization (PID) evidence of impact and the excavation process will continue with additional stockpiling until all the waste has been removed. Once the excavation is complete, confirmation soil samples from the bottom and sidewalls shall be analyzed to verify the nature of the remaining soil in the excavated area.

All excavated waste shall be sampled and analyzed prior to transport from the site for proper disposal at an EPA-approved facility, consistent with the "Offsite Rule".

Table 1 – Clean Fill Criteria

USEPA Priority Pollutants (Title 22 CCR)[1]	RCRA[2] Metals (TCLP)	EPA Method	STLC[3] Max. Limit (mg/L)	TTLC[4] Max. Limit (mg/Kg)	RSL[5] (mg/Kg)
Antimony		7040	15	500	
Arsenic	Arsenic	7060A	5	500	
Barium	Barium	7080A	100	10,000	
Benzene		8260B			5.4
Beryllium		7090	0.75	75	
Cadmium	Cadmium	7130	1.0	100	
Chromium (III)	Chromium (III)	7191	560	2,500	
Chromium (VI)[6]	Chromium (VI)[6]	7197	5.0	500	
Cobalt		7200	80	8,000	
Copper		7210	25	2,500	
Ethylbenzene		8260B			27
Lead	Lead	7420	5	1,000	
Mercury	Mercury	7471A	0.2	20	
Molybdenum		7480	350	5,100	
Naphthalene		8260B			18
Nickel		7520	20	2,000	
Selenium	Selenium	7740	1.0	100	
Silver	Silver	7760A	5.0	500	
Thallium		7840	7.0	700	
Toluene		8260B			45,000
Trichloroethylene		8260B			14
Tetrachloroethylene		8260B			2.6
Vanadium		7910	24	2,400	
Xylene		8260B			2,600
Zinc		7950	250	5,000	

[1] CCR – California Code of Regulations
[2] RCRA - Resource Conservation and Recovery Act
TCLP – Toxicity Characteristic and Leaching Procedure
[3] STLC – Soluble Threshold Limit Concentration
[4] TTLC – Total Threshold Limit Concentration
[5] RSL - USEPA Regional Screening Level for Commercial Soils, Summary Table, June 2011
[6] by request

1.62 Air Monitoring/Dust Control

Ambient air will be monitored with hand-held instruments continuously for VOCs (PID) and methane (NGI) during the project. In addition, stationary perimeter monitors will be record airborne analytes dislodged during the excavation.

Dust will be controlled by constant wetting by water trucks which will spray not only the windrows, but also the excavation pit, roads, and during the loading of trucks transporting material offsite for disposal.

1.63 Clean Fill Criteria

To confirm that the backfill material from whatever source (overburden or imported) is inert and will not be a potential threat to the water resources of the State, backfill material will be sampled and analyzed for its heavy metal characteristics (Title 22 metals (17) TTLC by EPA Method 7471A), VOCs (EPA 8260B), SVOCs (8270C), TPH-ccid (EPA 8015M), and pH. If the overburden yields analytical results for metals, VOCs, SVOCs, TPH-ccid, and pH below the clean fill criteria contained in **Table 1**, then it will be used as engineered fill. If the overburden exceeds any of the clean fill criteria, then it will be sent offsite for proper disposal at an EPA-approved facility.

1.64 Engineered Fill

When the sample results are analyzed, overburden material which passes the clean fill criteria contained in **Table 1** will be placed back into the excavation as an engineered fill. Additional soils may be imported and engineered as a fill.

1.7 REQUIRED PERMITS AND RESTRICTIONS

Due to the federally designated WDI Superfund Site and the presence of the Omega Superfund groundwater impact, development at the Proposed Project site must be coordinated with USEPA Region 9 and the WDIG. USEPA Region 9 will give final approval of the RCRA Subtitle D-equivalent clay cover removal from the Proposed Project site.

Deed restrictions have been recorded for the Property with the County of Los Angeles as part of the EPA-selected remedy. The deed restrictions have been recorded to prevent or mitigate penetrations of the capping system that would adversely affect the remedy.

The proposed project will require approvals and building permits from the City. Any future building foundation may require a gas migration barrier or engineered gas vent system underneath, as per City of Santa Fe Springs Regulations.

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